

What is claimed is:

1. An electronic component, comprising:

a piezo-electric resonator which is formed on an element substrate and which has a piezo-electric film, said piezo-electric resonator obtaining a signal having a predetermined resonant frequency by a bulk wave propagating
5 through said piezo-electric film;

a packaging substrate on which said piezo-electric resonator is mounted by a face-down bonding through an electrically connected projecting portion;

a sealing member which is fixed on said packaging substrate and which seals said piezo-electric resonator; and

10 a distance between a surface of said piezo-electric resonator facing said packaging substrate and a surface of said packaging substrate facing said piezo-electric resonator being not larger than 100 μm .

2. An electronic component, comprising:

a piezo-electric resonator which is formed on an element substrate and which has a piezo-electric film, said piezo-electric resonator obtaining a signal having a predetermined resonant frequency by a bulk wave propagating
5 through said piezo-electric film;

a packaging substrate on which said piezo-electric resonator is mounted by a face-down bonding through an electrically connected projecting portion;

a sealing member which is fixed on said packaging substrate and which seals said piezo-electric resonator; and

10 a maximum diameter of said electrically connected projecting portion being not larger than 150 μm when said electrically connected projecting portion is connected to said packaging substrate.

3. An electronic component as claimed in claim 2, wherein the number of said electrically connected projecting portion formed on said piezo-electric resonator is eight.

4. An electronic component, comprising:

a piezo-electric resonator which is formed on an element substrate and which has a piezo-electric film, said piezo-electric resonator obtaining a signal having a predetermined resonant frequency by a bulk wave propagating through said piezo-electric film;

a packaging substrate on which said piezo-electric resonator is mounted by a face-down bonding through an electrically connected projecting portion;

a sealing member which is fixed on said packaging substrate and which seals said piezo-electric resonator; and

a distance between a surface of said piezo-electric resonator facing said sealing member and a surface of said sealing member facing said piezo-electric resonator being not larger than 150 μm .

5. An electronic component as claimed in claim 4, wherein said surface of said piezo-electric resonator facing said sealing member and said surface of said sealing member facing said piezo-electric resonator are coupled with each other.

6. An electronic component as claimed in claim 4, wherein a buffer is located for burying a space between said piezo-electric resonator and said packaging substrate.

7. An electronic component as claimed in claim 4, wherein a buffer is located for burying a space between said piezo-electric resonator and said sealing member.

8. An electronic component as claimed in claim 7, wherein said buffer is an adhesive for fixing said piezo-electric resonator and said sealing member.

9. An electronic component as claimed in claim 1, wherein said electrically connected projecting portion is formed by gold.

10. An electronic component as claimed in claim 1, wherein a couple of said piezo-electric resonators are mounted on said packaging substrate, one being a transmission side filter for processing a transmission signal while another being a reception side filter for processing a reception signal.

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11. An electronic component as claimed in claim 1, wherein said piezo-electric resonator is an SMR type piezo-electric resonator.